

I CLAIM:

1. A method of laying pipeline along inclined terrain having an inclined upwardly open ditch extending between upper and lower vertically spaced locations, comprising placing the pipeline in the ditch at a site adjacent the upper location and moving the pipeline down the ditch toward the lower location.
2. The method of claim 1 wherein the moving step comprises sliding the pipeline down the ditch.
3. The method of claim 2 further comprising placing bearings in the ditch supporting a section of the pipeline above a bottom of the ditch.
4. The method of claim 3 wherein the pipeline includes a coating and the bearings are softer than the pipeline coating so that wear during sliding movement occurs on the bearings and not on the pipeline coating.
5. The method of claim 3 further comprising lubricating the bearings with a liquid lubricant.

6. The method of claim 3 further comprising the step of removing the bearings after a lower end of the pipeline reaches the lower location.

7. The method of claim 1 wherein the moving step comprises fixing a wheeled device adjacent a lower end of the pipeline and rolling the wheeled device and lower end of the pipeline down the ditch.

8. The method of claim 7 wherein further comprising the step of adjusting a vertical angle between the wheeled device and the lower end of the pipeline.

9. The method of claim 1 wherein the moving step comprises adding additional joints of pipe to an upper end of the pipeline.

10. The method of claim 1 wherein the placing step comprises positioning the pipeline at an incline in the ditch leaving an upper end of the pipeline at an incline and the moving step comprises placing the additional joint at an angle concentric with the upper end of the pipeline, welding the additional joint to the pipeline while in an inclined position and then lowering the additional joint into the ditch.

11. The method of claim 1 wherein the moving step comprises steering a lower end of the pipeline away from a side of the ditch.

12. The method of claim 11 wherein the steering step comprises placing a jack between the lower end of the pipeline and the ditch and extending the jack thereby forcing the lower end of the pipeline away from a side of the ditch.

13. The method of claim 1 further comprising the step of stabilizing the pipeline in the ditch after a lower end of the pipeline reaches the lower location by at least partially backfilling the ditch.

14. A method of laying pipeline along inclined terrain providing upper and lower vertically spaced locations, comprising

- a) providing an inclined pipeline section, adjacent the upper location, having an upper end;

- b) welding an inclined pipe joint, coaxial with the pipeline section, onto the upper end adjacent the upper location; and then

- c) lowering the inclined pipeline section and the inclined pipe joint from adjacent the upper location toward the lower location.

16. The method of claim 15 further comprising repeating steps b) and c) to produce a pipeline extending from adjacent a top of the inclined terrain to adjacent a bottom of the inclined terrain.

17. Apparatus for lowering a pipeline down a pathway on an incline having a top and a bottom, comprising

a frame having a member bearing on the incline and including a device for receiving and attaching to the pipeline adjacent a lower end thereof; and

a system for lowering the frame along the pathway and thereby allowing the pipeline to move down the incline.

18. The apparatus of claim 17 further comprising a system for adjusting a vertical angle between the member and the device for receiving and attaching to the pipeline.

19. The apparatus of claim 17 wherein the member is a wheel.

20. The apparatus of claim 17 wherein the lowering system includes a cable attached to the frame and a winch for paying out the cable.

21. The apparatus of claim 17 wherein the lowering system includes a relatively stationary set of slips and a relatively movable set

of slips for gripping the pipeline at locations spaced along a length dimension of the pipeline, a force applying mechanism attached to the movable set of slips for resisting movement of the pipeline and a control system for controlling the slips and the force applying mechanism.

22. The apparatus of claim 21 wherein the control system selectively energizes the slips

for gripping the pipeline with the stationary set of slips, for releasing the stationary set of slips and gripping the pipeline with the movable set of slips thereby allowing the movable set of slips to move downwardly along the incline as allowed by the force applying mechanism and thereby lowering the pipeline, and

for gripping the pipeline with the stationary set of slips and releasing the movable set of slips from the pipeline thereby allowing the movable set of slips to move upwardly along the incline by a force applied by the force applying mechanism to a position adjacent the stationary set of slips.

23. The apparatus of claim 17 wherein the pathway provides an axis of movement of the pipeline and further comprising a system for moving the member laterally of the axis and thereby steering the pipeline along the pathway.

24. Apparatus for lowering a pipeline down a pathway on an incline having a top and a bottom, comprising

a frame having a member bearing on the incline and including a device for receiving and attaching to the pipeline adjacent a lower end thereof; and

a system for adjusting a vertical angle between the member and the device for receiving and attaching to the pipeline.

25. Apparatus for lowering a pipeline along an axis of movement down a pathway on an incline having a top and a bottom, comprising

a frame having a member bearing on the incline and including a device for receiving and attaching to the pipeline adjacent a lower end thereof; and

a system for steering the pipeline along the pathway including at least one device for moving the member laterally of the axis.